for wind breaks, covered forcing beds, crop supports, etc. Livestock harness is simple in type consisting of head harness and collar. Working bullocks, now rarely used, are also equipped with collars for traction but the guiding reins are attached to the horns. Country carts are unsprung, wooden frames resting directly on the metal axles. That the ruggedness of their construction is only equalled by the toughness of the draught animals is evinced by their presence on places such as Dingli Undercliff, or the cliffsides of the Wied il-Luq (Buskett).

The solidly built stone huts or *orfa* that are to be found on most holdings may be regarded as part of the farmers' 'equipment' rather than his habitation. The simplest and most numerous are simple one-roomed cubes, some five yards square, strongly constructed, usually of worked stone blocks with wood and *forba* roofs. These 'blockhouses', for such they appear, serve as storehouses for implements and crops, for guns and birdcatching equipment, as well as for shelter during the 'siesta' hours and bad weather. Their cost in construction labour, and the pride that does into the simple furnishing of what is the farmers 'den', as well as the deceptive appearance of dispersed settlement that they give, suggests that further investigation into their origins might prove valuable. In general terms, they seem to be a natural response to the marked concentration of settlement in the casals. They are far less numerous in the western region of more recent and dispersed settlement. The larger, two-roomed and two-storied types are used mainly as summer working residences, when a whole family may move out of its casal to the main holding.

These implements and types of equipment are one facet of the complex of traditional cultivation techniques - techniques based on the intense and continuous application of uncosted hand labour. A brief examination of the working characteristics of some of the implements is a necessary introduction to a discussion of general cultivation techniques.

The *moħriet* (Plate XIX) is used as an animal-drawn hoe rather than as a plough proper. It is light and can be carried by the cultivator along narrow field paths and across rugged terrain. Its negotiability is limited only by the ease of access demanded by the draught animals. The 'rotavator' (Plate XX) alone of modern mechanical implements can rival it in this respect. On coarse soils, often only a few inches deep, cross tilling by hoe or *ard* seems perfectly satisfactory for tilth making. A vertically applied tool such as the true spade cannot be utilised in such soils, while all but the simplest mouldboard ploughs are too clumsy for use in small terraced fields. Both *ard* and hoe are used in garden rather than field style and their only disadvantages lie in the slowness of the work performed. Here lies the especial advantage of the rotavator that can, under reasonable conditions, be used for tilling six *tmien* of land a day as compared with about two or three for the *ard* and one for the hoe. (Figures are necessarily approximate averages.)

Cultivation techniques and the farming landscapes which they have produced are now in a critical stage of development. For millennia, a slowly increasing population has been utilising the natural land resources more and more intensively and also supplementing them by artificial works. Until the early nineteenth century, social and tenurial obstructions to full land use on the one hand, and wealth derived from the overseas possessions of the Knights of Malta on the other, little affected the basic land hunger of the rural community. During the period of British occupation, however, externally derived income has brought with it more and more non-agricultural activity. Opportunities for non-farm work have increased and so has socio-economic dissatisfaction with arduous and limited rural life. The stage has now been reached at which land reclamation and land abandonment, intensification of effort and neglect, are proceeding simultaneously. An examination of those landscape features which are products of farming techniques suggests that this stage is now critical.

Land reclamation and the extension of the cultivable area are still going on. At several points on the Delimara peninsula, material is being carried from the cliff foot and from old huts and dwellings and spread over the existing thin and discontinuous soil cover. On this, sulla as a soil building leguminous crop

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159 241 (ii) The intensive summer utilisation of the land for unirrigated summer vegetables is characteristic of this region. Tomatoes and brassicas are dominant. Vetches and beans are grown as catch-crops in small patches. This type of cropping sequence i.e. potatoes, vegetables, cereals, sulla, is typical of well-developed Maltese mixed-farming.

159 23 234 C. Livestock.

(i) c.33 head of cattle including 20-22 milch cows, 1 stud bull, 2 bull calves for fattening.
(ii) 2 goats, 1 mule, 1 pony, 12 hens.
(iii) The cattle-herd has been built up since 1940.

159 [472] D. Capital.

(i) The accepted leader of this partnership enterprise is typical of the more commercially minded and successful Maltese farmers in that he was prepared to discuss anything except financial details. The amount of capital of property and even the details of land-holding of this "kulak" class is known accurately by nobody.

[407] [343] [454] (ii) Equipment includes 1 van, 1 hand tractor, 2 water pumps and two large cattle byres. At local values, farm buildings and mechanised equipment represents over £8,000 investment.

[426] (iii) This partnership prefers to indulge in small-scale family borrowing and lending rather than to use official-and controlled- credit facilities.

[423] (iv) Two village houses and over 3 tmien of land are owned freehold.

E. Labour.

159 464 407 427 (i) Partnership labour force totals 6 full-time farm-workers (5 brothers and 1 adult son).
(ii) A youth employed full-time with cattle.
(iii) All plots are deep-plowed by crawler tractor every fourth year at cost of £1 per tomna.
(iv) On this relatively level land a varying fraction of cereal reaping is done by machine. Machine cutting costs £1 a tomna, hand harvesting £3 a tomna. Hand cutting is less wasteful of straw but these farmers have a rare appreciation of the importance of the time-element in their complex economic and land-use system.

159 433 F. Production and Sales.

(i) The only certain information obtainable is of sales of cows milk. During 1957 minimum daily sales averaged 283 lbs. during May, and the maximum of 350 lbs. during March was almost matched in August and the following January. This constancy of sales based on a firm intention to allow production to vary but slightly from an average of 30 gallons a day from 20 milch cows is rarely found in Malta and is typical only of a few technically advanced and commercially minded farmers.

159 43 (ii) The partnership although possessing a stud bull usually buys cows in milk (preferably Ayrshires), a 'good' yielder costing c.£210. Breeding and raising heifers if regarded as unprofitable.

(iii) The main sales of arable produce consist of summer cauliflowers and tomatoes. In an effort to avoid the usual glut of summer brassicas considerable importance is attached to extending the season of production into autumn and winter. Price variations are considerable e.g. In 1956 cauliflower prices dropped to 1/- a sack while in 1956 they had risen to 20/- a sack.

*159 The larger pieces of ground are put to potatoes, tomatoes, 24 artichokes (qaqoċċ), marrows (qargħa bagħli), and a variety 31 of vegetables. Fig, pomegranate and other trees fill the corners and edges of fields and a tomato seed-bed and a hen-[406] house also manage to find space in odd corners. Two machine-●[343] driven pumps and a few tiny storage and shelter rooms complete [134] the scene. The block of fields is in a small sheltered valley on the east coast of the Island and contains clay soils tending to be heavy, especially in wet weather.

*159 Pietru's irrigable fields are clearly the focus of his 241 interest and attention. He observes that they bring in a 433 greater profit per man/day of effort than do the dry fields 434 which he prefers to leave to the wife and children to culti-829 vate on a more casual basis. Nevertheless Pietru is not able [464] to make a profitable concern of his farm despite his own heavy working schedule and the full-time assistance of at least two teenage children. In fact he is poor enough to qualify for C.A.R.E.[27] food distributions. He is however content with farming as an occupation and critical only of the lack of adequate remuneration. His attitude is to 'make the most' of his farm within current limitations. He was a [474] founder member of a C.A.R.E. sponsored tractor co-operative (Section 2) although he admits that when the project was first suggested he was opposed to it on the grounds of rather having the money than letting the Government get it. This belief that the Government is behind everything is characteristic (Section 4). C.A.R.E. is of course an independent organization distributing American surplus food and equipment.

*159 Thus Pietru's son who works full-time with his father is 178 faced with his father's industry and enthusiasm for farming on 241 the one hand but he can see for himself the apparent impossibility of achieving anything above low living standards. Whether he will join the trek away from farming is not yet clear. His educational standard is lower than is the case among many of his generation and it may be that he will have difficulty in finding employment outside farming.

If Pietru can improve the efficiency and profitabily of his farm (by using better suited crops, new methods and new equipment with Government financial and advisory assistance) his son might be pursuaded to stay in it. The problem of Maltese farming today is that there are very few young men in the farming industry who show as much inclination to [426] stay on the land. The Government has been keen to assist [654] the full-time farmer with loans and other help in an effort to encourage him to stay on the land and to develop agriculture to the full but it has done comparatively little for the young men in farming who are, in the long term view at least, the more important. If they cannot be induced to stay in farming the industry would appear to be doomed.